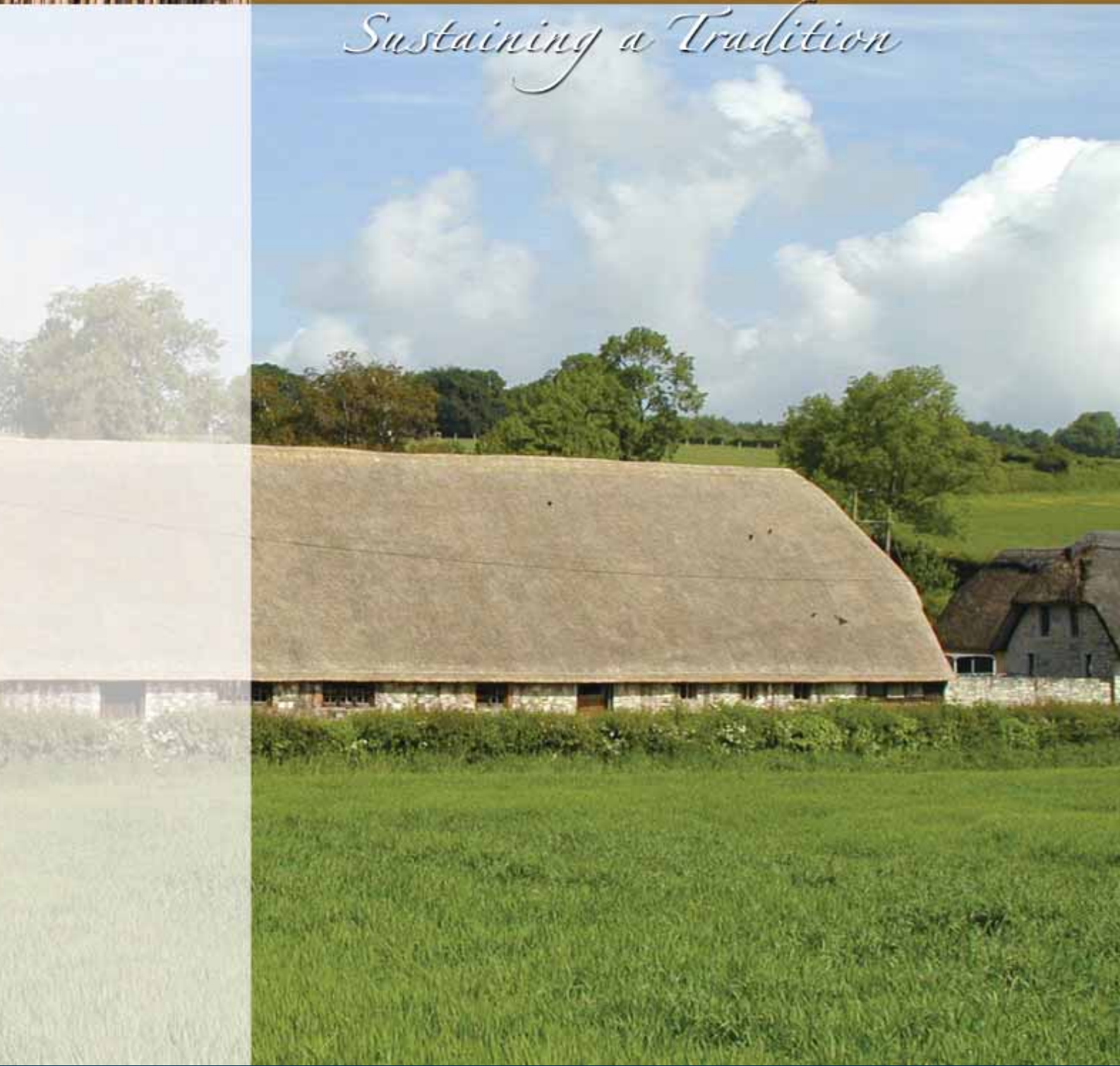
Thatch

IN HAMPSHIRE

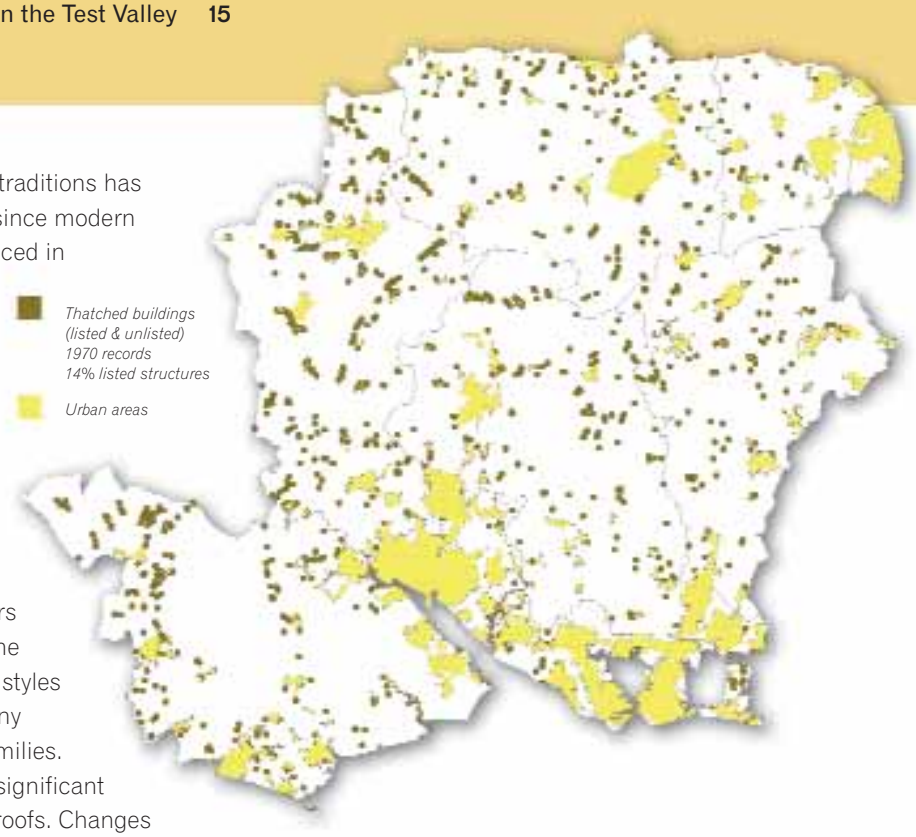
Sustaining a Tradition



Hampshire County Council

Thatch in Hampshire

Front cover & above: Hensting Farm Owlesbury, 15c aisled barn. Re- thatched in long straw with grant-aid from Countryside Stewardship Scheme, (of DEFRA).



Summary

How to maintain thatching traditions has been a persistent problem since modern farm practices were introduced in the 20th century.
The traditional deep, multi-layered straw roofs of Hampshire are threatened by new materials, techniques and environmental demands.

Modern farming practice has changed the traditional relationship between farmers and thatchers, and with it the supply of materials and the styles of thatching familiar to many generations of thatching families. These changes have led to significant losses of historic thatched roofs. Changes in our climate – with hotter summers and wetter and windier winters – are new threats to thatched buildings, in addition to their old enemy, fire. In an increasingly demanding environment, supplies of durable thatching materials and skills are more critical than ever.

The survival of a rural straw-thatching tradition in England, south of a line roughly between the Severn and the Wash, deserves recognition nationally and internationally. Villages rich in multi-layered thatch, as in parts of Hampshire, are exceptionally important but depend for survival on an awareness and understanding of their value and of their vulnerability to degradation and loss.

Left: Combination thatch, Bridge Cottage at Quarley

Introduction

The rich thatching heritage of Hampshire is visible throughout its villages. The history of the craft is recorded in the photographic archive and may still be seen on the old roofs of a wide variety of timber-framed medieval halls, houses, pubs, agricultural buildings, cob cottages and cob boundary walls. Thatched roofs form part of the local vernacular building styles, whether these use plastered or limewashed walls, cob and timber-framing, or masonry of flint with brick banding. The County Council's support of long-straw thatching has helped to encourage skilled thatchers in the county to preserve a multi-layering tradition dating back many centuries.

The craftsmanship that produces a thatched roof gives a timeless quality which is irreplaceable, but there are problems with maintaining old thatched roofs. Styles once adopted by generations of thatching families, and used consistently throughout the areas they worked in, now vary within villages and estates as thatchers are no longer confined to specific territories. As a farm-produced, biodegradable, hand-crafted material, thatch can serve as an ideal contemporary sustainable building material. Thatching traditions are currently challenged, however, by conflicting perceptions of the aesthetic appearance of thatch, the demanding maintenance requirements of a durable, hand-crafted roof, and the need to preserve the character and appearance of historic buildings and areas.

The aim of **"Thatch in Hampshire"** is:

- to promote interest in and focus discussion on the issues and changing trends that influence our understanding of the character of historic thatched buildings and the contribution they make to the landscape and their locality;
- to help people understand what is valuable in traditional thatching and the issues relating to current thatching practices, with the object of forging a consensus on the principles, practices and actions needed to sustain traditional thatching in the county. This understanding needs to be shared by district planning authorities, owners and their agents, the thatching industry and farmers.

North slope in long straw.

West slope in combed wheat reed.

Below: Raking off the excess thatch, fishing hut, River Test.

Thatching Traditions

As written accounts of the history of thatching are not readily available, current thatching practices can best be understood in the context of major developments in agricultural history before and after the onset of mechanisation. The practice of thatching roofs dates back to ancient times when many varieties of vegetation were used as roof coverings, including straw, reed, heather, bracken and turf. By the late Iron Age, arable farming had become commonplace and cereal crops for thatching would have been available alongside water reed and plants from moor and heath lands. An example of a reconstructed Iron Age thatched roundhouse can be seen at Butser's Ancient Farm near Petersfield.

After the collapse of Roman rule the range of thatching materials increased, as the Saxons brought their bread wheats and rye, favoured for bread and beermaking, from the reed-bearing coastal lowlands of mainland Europe. The ancestry of wheat varieties such as Maris and Squarehead, used today for English thatching, can be traced to this period *(Letts, 1999).* As in earlier periods,

Above: Thatchers working on long straw at Romsey

Above first: Row of long straw cottages fronting Church Street, St Mary Bourne. A view largely unchanged today.

Second: Traditional thatch wall capping on estate wall near Basingstoke.

a variety of plant materials would have been used for Saxon buildings, depending on what was available.

Thatch was widely used in Hampshire in medieval times, and well into the Tudor period it was the commonest type of roofing material for all but the highest-status buildings. Thatching materials varied according to availability: straw from inland cereal crops, reed in coastal areas and river valleys, and heather in the New Forest heathlands. The same principles of domestic planning applied in small and larger houses. Communal living spaces focused on open central hearths, with ventilation through smoke holes or louvres built into the roof. Freely circulating smoke blackened the underside of the roof timbers and thatch roof covering that formed a base for subsequent layers of thatch. In Hampshire this sooting of the thatch underlayers would have continued well into the transitional period from the 1470s to the 1560s, when houses were still being built with open halls *(Roberts, 2003)*.

As landowners prospered from the wool trade, housing improved. Floors were inserted in open halls and chimney stacks were added, concealing smoke-blackened base layers of thatch beneath plaster ceilings. Fires were very common in Hampshire, and this discouraged further use of thatch in towns.

However, thatch was more economical and still widely used on smaller rural houses, whose less robust roof structures were unsuitable for heavier coverings. Some examples of the types of roofing structures recorded on the earliest thatched buildings that have survived in Hampshire have been dated by dendrochronology to the 14th century *(Roberts, 2003)*. Seven per cent of the 211 thatched roofs surveyed recently in the Test Valley may have early, if not smoke-blackened, base layers.

The second half of the 18th century brought major changes to rural areas and in Hampshire an emphasis on the cultivation of arable crops, especially on downland pasture. The patenting of Miekle's mechanical thresher in 1796 and the introduction of the horse-drawn reaper-binder made the production of straw for thatching more mechanised and efficient. The use of the thresher brought the term "long straw" into widespread use. It refers to the longest straw left at the rear of the thresher, for use as thatch. The straw produced by threshing was clean, of uniform quality, largely uncrushed and sufficient to establish the long-straw style as the dominant type used throughout the century in all southern counties outside the West Country.

The collapse of wheat prices after the Crimean War caused the first of the agricultural depressions that would often occur in the 19th century, affecting the availability of wheat supplies for thatching. The Farm Labourers' Revolt of 1830 was largely due to the unemployment caused by the use of the fixed threshing machine, though the machines did not change the basic harvesting methods or field patterns. In 1850 complaints about the state of farming in Hampshire pointed to the lack of threshing machines and over-reliance on expensive labour. Despite the introduction of the horse-drawn reaper-binder and thresher, they were not widely used in Hampshire until after 1880 *(Hughes, 1984)*. The introduction of a straw comber attachment fixed to the top of the thresher in the late 19th century increased the speed of producing reed straw by cleaning and stripping the straw of leaves and grain and aligning the butt-ends.

Right: Reconstructed round-house, c300BC with five tonnes of wheat reed and 200 trees. Butser Ancient Farm, near Petersfield (Photo courtesy of Bruce Howard).

Below: Norfolk reed thatching at Bishopswood, the Bishop of Portsmouth's Palace, Fareham, 1936.

However, use of the comber attachment was largely restricted to the West Country until at least the years between 1918 and 1939. While sheep husbandry and milk production improved, wheat declined by 30,000 acres. The efficiencies of mechanisation could not soften the harsh economic climate. The depression of 1893 led the Royal Commission on Agriculture to report that "the old pride which in bygone days farmers took in preparing their land for wheat in this typical wheat-growing area has disappeared" *(Fussell, 1952).*

By the 1930s the older varieties of wheat were suffering from hybrid breeding, and stems were becoming shorter and more brittle. Combine harvesters could not produce straw for thatching and intensive labour was not always available to stook, collect and feed the thresher. The varieties of shorter-length straw suitable for the combine harvester were not suitable for thatching. Thatchers were encouraged by the government to develop other materials to use in place of raditional longstraw.

Left: R.E. Clarke, Hampshire thatcher & Rural Thatching Officer, Southern Region, Rural Industries Bureau.

Commercial East Anglian thatching firms began promoting water reed in traditional straw-growing areas, even after specialist straw growers began to improve the seed stocks and quality of straw growing.

The "invasion" ,of Norfolk reed was noted in Hampshire's local press in 1950 and was attributed to the Rural Industries Bureau employing a Norfolk reed thatcher. Water-reed work was also supported by the comercial harvesting of reed beds at Keyhaven, Lymington, Totton and Christchurch from the late 1950s.

> *"Here was I, Frank Weston; Parish Clerk & Sexton, bell-master, thatcher-in-straw, reed or heather, haytier, land measurer, water- diviner, gravedigger, hurdle-maker, with sound connections and a secure income. I felt my few years burden with him towards the end was little enough for me to suffer for these good things which had been given to me through the love my father bore me."*
>
> Norman Goodland, My Father Before Me, Hutchinson, 1953.

Right: "Good thatch is made on the ground" yealming at Poplar Farm, Longstock.

Characteristics of Thatching *Materials*

Above 9 month old long straw, Manor Farm, Ibthorpe.

Second: Long straw dormer window, Lime Cottage.

The three methods of thatching used today are long straw, combed wheat reed and water reed. The methods and variations are described in detail in the **The Thatcher's Craft** (*Rural Industries Bureau, 1961*). The Rural Industries Bureau was responsible to the Government for modernising thatching by turning it into a commercial enterprise and was not particularly concerned with preserving historic roofs, though it was well aware of the "loss of the familiar wheat straw that had been characteristic of thatching in Hampshire, Dorset and Devon".

A survey by the Rural Industries Bureau in 1965 revealed that of the 68 thatchers listed in Hampshire just over half were trained to work in combed wheat, 24 could work in water reed and all could work in long straw. In a report on the survey, Hampshire was identified as one of the counties where property owners and thatchers thought mainly in terms of long-straw thatching and relied on local farmers for supplies of good straw (*Cox & Letts, 2000*). Today some straw is grown for thatching as a specialist crop in the New Forest and Test Valley but the majority is brought in from other counties such as Devon, while most of the water reed is brought in from Turkey, Hungary, France and, in the case of Veldt Grass, from as far afield as South Africa.

Long straw

Long-straw thatch is distinguished by its coarse texture, mixed ears and butts and exposed stem lengths, which result from the traditional two-stage process of careful ground preparation and the way the material is bedded on the roof. The practice and terminology used in North Hampshire was recorded by Norman Goodland, of the Frank West family of thatchers, in **Country Life** (*26 October 1960*).
A rectangular bed straw is made up on the ground. This allows the thatcher to wet the straw bed evenly (essential for making the straw workable), to draw the straw first into a line, then collect it into hellums, yealms or holms, depending on local terminology. These bundles, of 18 inches (450mm) across by 3 inches (75mm) thick, are then carried onto the roof. Most of the thatching work with long straw involves stripping off the outer surface of decayed straw to a sound base, then fixing the fresh straw onto the old base layers. The stripping of decayed matter must be done carefully to achieve the best pitch and to prevent an excessive weight of thatch building up.

The characteristic appearance of long-straw roofs comes from the way the straw lies in a shaggy, rough mat, which wraps itself like a soft, thick blanket and curves around corners and valleys (the angle between

Above: Long straw verge finished with cross-rods, Cheriton.

roof slopes), sweeping over dormer and eyebrow windows. By comparison to the two other common methods, the straw is laid and cut into place, not pushed and packed with a leggett. Eaves and gables are normally secured against potential wind damage with exposed liggers, giving the appearance of a stitched quilt. Ridges are normally of a simple wrap-over style, flush with the roof slopes and sometimes decorated with cross spars. Ears of the grain are visible, so netting has been used in more recent times to inhibit birds and rodents from burrowing in the thatch.

Above left: Austins Cross Cottage in c.1930, in traditional long straw roof and right how the Cottage looks today in combed wheat-reed, King Somborne.

(Photo courtesy King Somborne & District Historical Society, (c.1930).

Above: New combed wheat reed sparred on, Hurstbourne Tarrant.

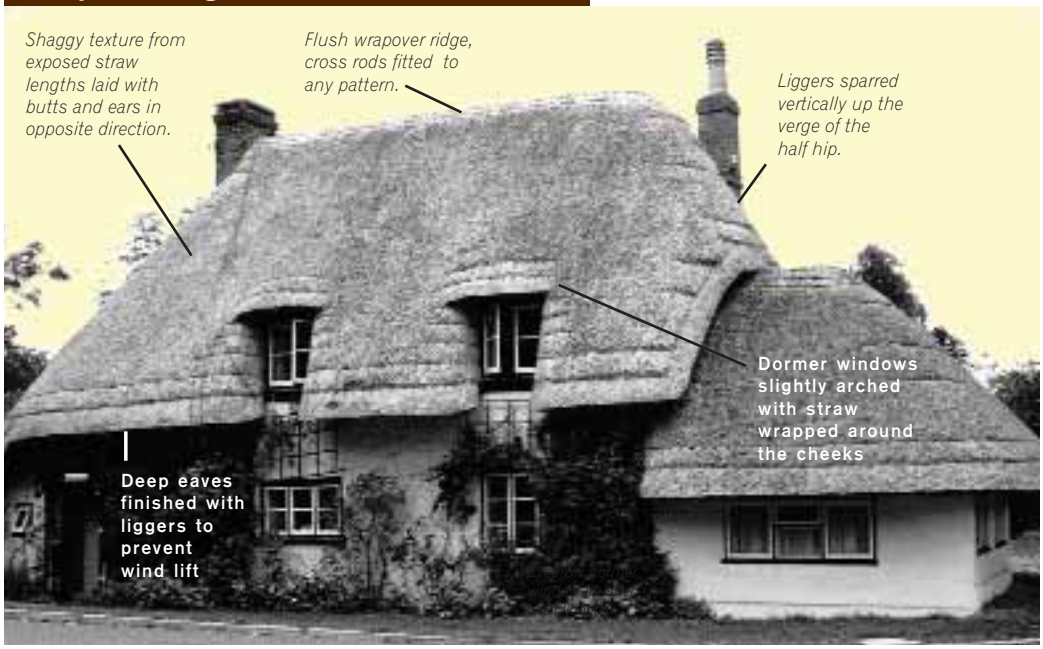
Second: Combed wheat reed, Quarley.

Combed wheat-reed

The combed wheat reed tradition derives mainly from the wetter climates of the West Country and uses what is commonly called Devon reed. Wheat-reed practice is similar to water reed in the way the material is fitted, but uses straw materials from the same family of plants as those used for long straw. As in the past, wheat reeds are still produced by a comber attachment fitted to the top of a threshing drum. The comber threshes ears from the wheat grain and the stems emerge, ideally with all the butts uncrushed though there is likely to be some distortion. The wheat reed is then butted together into wads and bundled. The difference between long straw and wheat reed lies in the use of the leggett (a wooden bat) for the final pushing and packing of the butt ends of the reed straw into the required shape, though in addition the eaves are generally cut to shape.

The overall appearance of a newly laid traditional wheat-reed roof is characterised by thinner, sharper planes, edges and angles than long straw. The texture is created by the butt-ends of uniform, tightly packed quills of straw that point down towards the eaves or edge of the roof. Ridge designs traditionally have flush butt-up or wrap-over ridges. Combed wheat roofs are likely to have a wire mesh covering. Older, weathered combed-wheat roofs will have softer, rounder lines where they are composed of layers of straw built up slowly over decades (or centuries in some cases).

Hampshire long-straw thatch characteristics



Below: This lodge at Totton is a good example of traditional use of water reed thatch, supported by rustic tree-trunk posts, in the Picturesque style of the early 19th century.

Water-reed

The water-reed tradition originated in Norfolk, where reed beds were extensive, although water reed was once harvested for thatching in other parts of the country and in coastal estuaries in Hampshire. The Norfolk reed varies in height from 3-8 feet (1-2.5m) with a brown feathery seed head, and needs to be of very high quality for thatching. The ancient industry of reed and sedge cutting for thatching is still fairly strong in Norfolk, where reed production is managed in accordance with ecological principles. Because the demands for thatching material in the UK exceed the supplies available from home production, reeds have had to be imported from Turkey, Hungary, France and other sources since the 1950s.

Water reed is stiffer and stronger than straw and is always beaten or dressed into place by using a leggett, rather than being cut. The result is a flatter, more angular appearance with sharper corners than with the other materials, with the tubular reeds giving a bristly, textured surface. In Hampshire the ridges of water reed roofs are normally formed of long straw.

In many cases, water reed must be fitted to a flat surface, and this can result in the stripping out and destruction of all old layers of thatch and historic timbers to secure a firm base for the metal fixings. Water reed is difficult to apply to historic roofs and may look very different from traditionally thatching nearby.

Above: Block patterned ridge in straw on water reed, Cowleaze Cottages, Longparish.

Right main picture: Buttends of water reed.

Thatching

Sustainability

The longevity of thatch materials and the sustainability of thatching practices depend on the quality of supplies, workmanship, maintenance and the roof's history, design and microclimate. Thatching practices and material supplies have changed drastically since **The Thatcher's Craft** suggested life expectancies of 50-60 years for water-reed, 25-40 years for combed wheat-reed and 10-20 years for long-straw. As a general rule good-quality thatch of any of the three main materials will last 25-35 years, depending on the variables listed above. However, all three materials have been known to fail within a decade as decay can be accelerated by the use of poor quality materials applied incorrectly.

Experience has shown that it is important to look into specific site conditions and get advice from those working in the area with knowledge of the history of thatch work before quoting general rules on durability. Common biodegrading organisms can lodge in the thatch, such as soil microflora or deposits from prevailing winds, overhanging trees, farmyards, birds and other wildlife.

The key to straw failure lies in the way these organisms and deposits interact and, with the design of the thatch, affect the way water is held, driven off or evaporated from all roof slopes. As a general rule, the roof most likely to decay first is the one subject to the most extreme changes in temperature. The rate of thatch decay is a complex and controversial issue that often focuses on poor quality supplies. Adequate records on the source and nature of the materials used, and on subsequent work to the thatch, should be kept with the property; otherwise the underlying reason for unusual or premature decay may not be obvious.

Today thatching materials are no longer produced simply as a by-product of farming practices. Some thatchers also act as agents for a wide range of UK and imported materials.

“My father took on what he called Grandpa Weston’s round. Fred took Rams Valley, Carter’s Ley & Rheuban’s Close & I had to contend myself with Red Moor, Ashdown, Aldertown & Highcastle”

Norman Goodland, My Father Before Me, Hutchinson, 1953.

The nature of imported material is less familiar than that of UK-sourced materials. Thatching materials imported from France, Poland, Turkey and, in the case of Veldt grass, South Africa, are now used for all types of thatching in place of materials that in the past would have been harvested locally, despite the extra transport costs of importing them.

Poor harvests from bad weather, labour demands and antiquated equipment can deter English landowners from producing quality straw to meet current market demands for thatching.

Thatchers, with suppliers of thatching materials, can contribute to reducing detrimental environmental effects in the countryside. The revival of local or regional cultivation and the sourcing of English straw, water-reed beds and woodland products for use in thatching could all offer benefits in reducing transport, improving biodiversity, saving wildlife habitats and historic landscapes, and strengthening the rural economy.

After reaping straw stooks left to dry. Braishfield.

Below left : Thatch durability can be monitored where records are kept. Half-hipped 17th century timber-frame cottage, Breamore Estate, near Fordingbridge, grant-aided long straw, 1995.

Above: Threshing at Braishfield.

Conservation history & practice

Above: Smoke-blackened thatch, timbers and wattle panel, in roof space. Goodworth Clatford.

After World War II home improvement loans encouraged local authorities to replace thatched roofs with other materials. War shortages meant that corrugated iron and asbestos were used widely, in place of thatch, on agricultural buildings.
The decline of the craft of thatching and how to ensure its survival was a problem the Rural Industries Bureau had recognised before the aesthetics of replacing thatch with modern materials became an issue. From 1940 the two main straw-thatching traditions had become blurred, as the bureau was training thatchers to use all three methods but mainly to favour combed wheat reed over long straw. As farmers began to command higher prices for combed wheat reed the more labour intensive long straw method gradually fell out of favour.

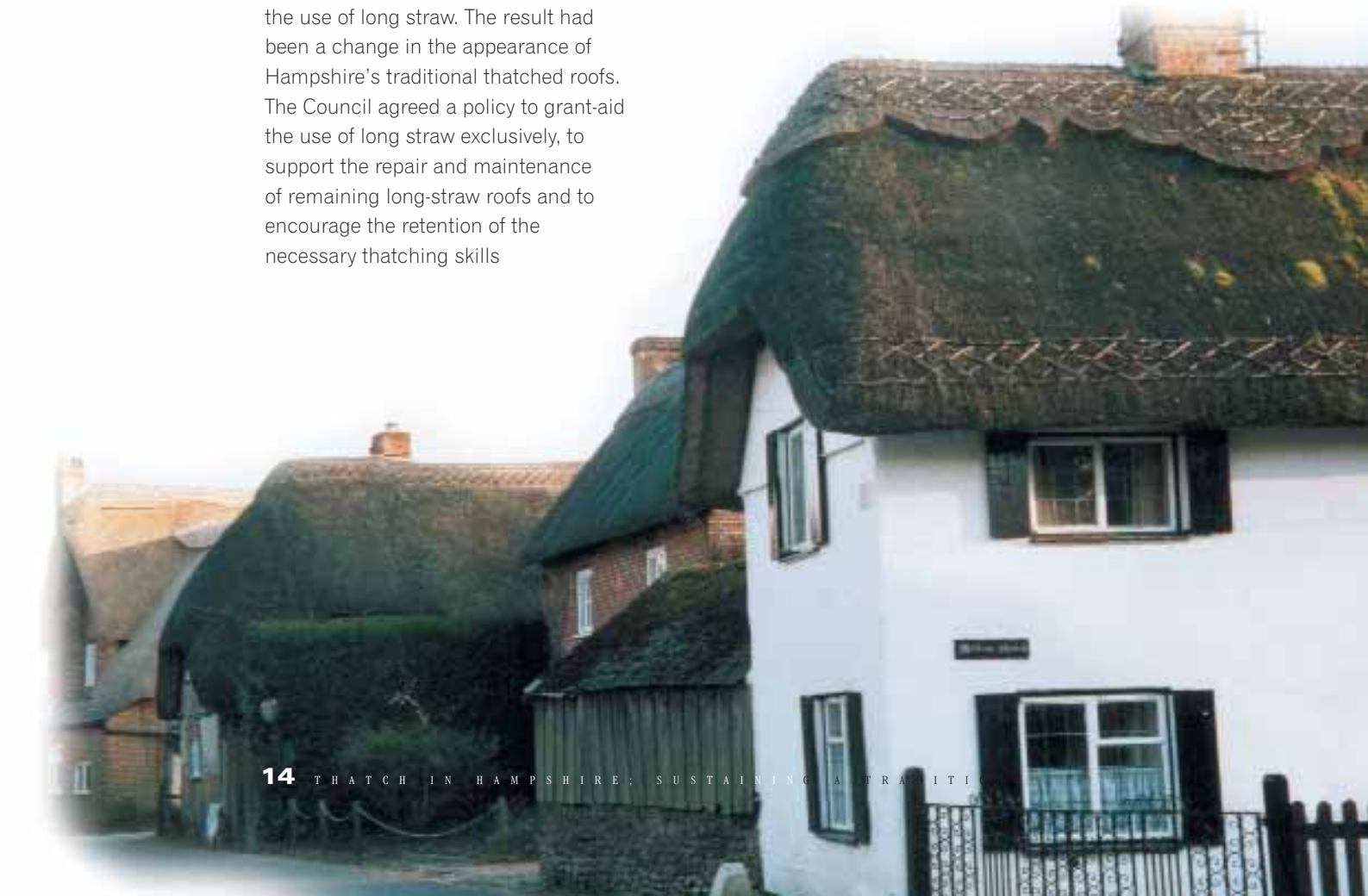
The re-surveys of the early 1980s significantly increased the number of thatched buildings on the statutory **Lists of Buildings of Special Architectural or Historic Interest.** Listing status protects the entire exterior and interior from alterations damaging to the buildings' historic fabric and character. Except in rare cases, the list descriptions identified roofing materials as thatch without noting any particulars such as the style of the thatch or any evidence of smoke blackening. The **Department of the Environment's Circular 8 of 1987** encouraged the restoration of thatch that had survived under later cladding and the preservation of all existing thatched roofs. Building conservation guidance was difficult to apply as it did not address the issue of how to restore "like for like" on historic thatched roof coverings which had been altered post-1945 or heavily restored by well-intentioned owners.

Above: Traditional New Forest roofs remain distinctive with eaves low to the ground, at Rockbourne.

In 1990 the County Planning Officer reported on the decline in the use of grants for thatching with long straw. Premature straw decay, shortages of suitable supplies and higher costs were cited as the reason for the decline in the use of long straw. The result had been a change in the appearance of Hampshire's traditional thatched roofs. The Council agreed a policy to grant-aid the use of long straw exclusively, to support the repair and maintenance of remaining long-straw roofs and to encourage the retention of the necessary thatching skills

In 1993 a national survey found that some southern counties had lost all or nearly all their ancient thatched roofs. Where samples of early thatch layers were found surviving in smoke-blackened layers, they contained well-preserved samples of medieval plant life and were therefore important to the understanding of early agriculture and roofing techniques. One 15th-century roof, sampled in Kings Somborne as part of the nationwide survey of early smoke-blackened roofs, included rare specimens of bread wheat and rye on the base layers of the thatch *(Letts1999)*. The loss of ancient thatched roofs prompted English Heritage to undertake more research into the history and current trends in thatching to serve as the basis for understanding the craft and its history.

Below: A wide varination of thatching styles at Rockbourne.



Pilot survey of thatch in the Test Valley

Above: Two distinct thatching styles showing weathered combed wheat with a block patterned ridge and new longstraw on right with a twisted knot ridge, Ibthorpe.

The Test Valley has more listed thatched buildings than any other district in Hampshire. Test Valley Borough Council, in cooperation with Hampshire County Council, initiated a pilot survey of thatch to collect information. This would inform planning decisions, Listed Building and Conservation Area policies and advice, and enable the council to target grant-aid given to property owners. Under a third of the district's 735 thatched roofs (211 sites) were surveyed in thatch-rich Conservation Areas. The survey revealed a picture of a building craft in transition, with evidence of some early, multi-layered thatches and local variations using the three main materials individually and in various combinations.

Areas such as Kings Somborne, Leckford and Hurstborne Tarrant have distinctive local styles based on the way the thatch is laid, the treatment of dormer windows, hips, ridges and porches. Some good examples of typical Hampshire long straw, referred to in some thatching publications, were found in the north and central Test Valley, on roofs with very simple lines, a shaggy texture, unpunctuated slopes, deep-set eaves and squared-off corners. In Kings Somborne, for example, combed wheat reed has been laid as a topcoat over some old multi-layered roofs.

Above: Right house grant-aided longstraw, left house combed wheat reed, Hurstbourne Tarrant.

The majority of long-straw roofs identified in the survey are concentrated in the Ibthorpe and King Somborne Conservation Areas, which have also benefited by the work grant-aided by the County Council since 1990. The Hurstborne Ibthorpe area has some large farm buildings that have been restored with grant aid. The large barn roofs contribute to the rural character of the Hampshire Downs Area of Outstanding Natural Beauty.

The quality and unique character of older and recently renewed long-straw roofs in the surveyed areas are evidence of the combined benefits and value of grant aid, the conservation advice given to owners and the quality of long-straw thatching currently practiced in the county.

The initial survey results from the richest thatch district in the county reveal a complex picture of the nature of thatching materials in current use. While combed wheat reed is the dominant material for top coats on thatch, it is sometimes laid to imitate the long-straw style on many older roofs. The number of long-straw roofs remaining is low and comprises 18 % of the total surveyed. The survey discovered, however, that at least a third of the roofs had evidence visible from the exterior of old layers of thatch under newer coats of combed wheat, bringing the number of older roofs and roofs remaining in long straw up to almost half the total surveyed.

Changes to thatched roofs & *listed building control*

Above: Combed wheat reed with a plain block ridge, Banktree farmhouse, Ibthorpe.

Local planning authorities can use various initiatives to recognise, protect and maintain historic thatched buildings. The work of repairing long-straw thatched buildings has been grant-aided by the County Council, sometimes in partnership with local district councils, DEFRA and EH. Recognition and maintenance of traditional thatching styles can be encouraged in landscape character assessments, Conservation Area appraisals and Village Design Statements. Unlisted thatched buildings may be included in local lists and databases when they are at risk, are good examples of the craft, or are of local importance and worthy of conservation.

Planning Policy Guidance 15, Planning and the Historic Environment, *sets the legal framework for reviewing work to listed thatched buildings in stating that "thatched roofs should be preserved, and consent should not be given for their replacement by different roof coverings. Where medieval thatch survives with characteristic smoke blackening on the underside it should be retained in situ and overlaid. When roofs are re-thatched, this should normally be done in a form of thatch traditional to the region, and local ways of detailing eaves, ridges and verges should be followed" (Annex C29).*

In 2000 English Heritage (EH) set out in some detail the conservation principles and recommended practice for local planning authorities when reviewing works to listed thatched buildings, in **"Thatch and Thatching: A Guidance Note".**

Above left: A Historic thatch, Dublin Farm, Wherwell. Below: historic timber framing cartshed, Dublin Farm.

The guidance sets out the types of thatching work that require listed building consent, with the categories of information useful for understanding traditional styles, methods and materials.

Listed building consent

In considering applications for listed building consent, the local planning authority assesses each case on its merits while having regard for local thatching traditions. These traditions generally determine the selection of materials, styles and ridge designs, whether there is still a discernible pattern or perhaps only a few rare surviving roofing types in an area. The EH guidance recommends that a change of thatching materials requires consent, whether proposing to change from long straw to combed wheat reed or the reverse. Similarly, it recommends that changes from straw materials to water reed should be subject to listed building consent. The planning authority may refuse the change from straw to water reed materials if good arguments for it are not made.

Re-thatching by replacing the decayed top coat of an old thatch with fresh material using the same method as the existing thatch is considered a repair and will not normally require formal consent though it may be worth consulting the local authority for advice. The renewal of topcoats does not normally disturb historic base layers. Where the thatch roof has deep multilayers the base layers should not be removed without listed building consent. Traditional thatching methods are encouraged in cases where the thatched roofs of terraces or courtyards, such as the roofs on farm buildings, need renewing.

The aim is to maintain a uniform style and appearance. Changes to the roof form and structure of a listed building normally require listed building consent. Structural alterations such as the addition of new dormer windows and repair of timbers may alter the historic character of the roof and need careful planning with a conservation officer and thatcher.

In practice the history of the building fabric, with local traditions and environmental conditions, may dictate the materials and methods used or the final external appearance of the roof. In all cases the need for listed building consent normally depends on the effect of the re-thatching on the character and appearance that give the building its special architectural or historic interest. Local historical societies and collections should be consulted for archival photographs, records and maps which may show the past appearance of the roof and surrounding area.

One of the most distinctive visual elements of a thatched roof is the ridge. Hampshire County Council's photographic archive and history of grant-aided work show that the traditional style of ridges used across the county on thatched roofs was a simple, wrap-over ridge flush with the main roof slopes and secured with liggers and rods laid in a pattern that the thatcher recommended to suit the work. Ridge designs should respect the character, scale and proportions of the building and the traditional designs used locally. Where the changes proposed for ridge designs vary from the tradition of using simple plain, wrap-over roofs, listed building consent is normally required.

Maintenance *and repair*

Above: Bundle of hazel spars. Hampshire has some of the best hazel coppice in the country.

Regular maintenance of thatched roofs is essential to keep water from saturating the thatch. Overhanging trees, excessive rainfall, and being near a water source can all make it difficult for the thatch to dry out. A normal repair for a long straw roof is to replenish the top coat of straw after removing any decayed thatch. The old roof is prepared by having a sound, even base of thatch bedded in with freshly prepared straw. When repairs are done the treatment of verges, eaves and window openings should enhance and complement the character of the building. The removal of old straw material, adding of new material and decorating in a way that maintains an undulating thatch-line, should all be done without adding unduly to the weight of the thatch. The overall shape of the roof should have the materials lying as flat as possible to aid in shedding water though this will depend on the degree of pitch achieved in preparing the surface. It is not always essential to strip out eaves or the gables when sparring on new coats of thatch. A Thatchers' Association standard for Hampshire requires a compact straw coat of 10 inches (250mm) thickness when re-thatching though many thatching specifications require 12 inches (300mm). This type of work was traditionally the main work of thatchers, as laying entirely new roofs was rare.

Ridges normally need renewing at 7-10 year intervals though this depends on the quality of the ridge work and exposure.

Spot patching, which may be needed if patchy decay has occurred, quickly weathers to match the surrounding material. Visible fixings, slippage, wet patches, excessive mould and depressions in the ridge can indicate decay. A Thatchers' Association standard for the minimum thickness of thatch material over fixings is at least 5 inches (125mm)

Timber frames. Some of the earliest recorded thatched roofs in Hampshire have unique timber-frame

Above top: Excessive moss cover will hold moisture against the thatch, Longstock.

Above: The slope of this barn roof is in need of repair as fixings are visible well above the straw and thatch is worn and compacted, Alresford.

structures, such as cruck frames, pole rafters and other structures typical of historic construction techniques. Old timber roofs may require in situ repairs, by matching in new timber sections using traditional joinery techniques. Wholesale replacement of timber structures is seldom necessary and would have to be fully justified.
In all cases the history of the building fabric, the proximity of other historic thatched roofs, local environmental conditions and exposure should dictate the materials, methods and style that are used and the external appearance of the roof.

Eaves that become damaged by birds may be easily inspected if they are close to the ground. Work with ladders is best left to thatchers as they must be placed very carefully to avoid damage.

Fire risk is considered to be higher for thatched properties though it has been considerably reduced due to improved awareness of safety standards. There are now specialist insurers who may have lower rates than standard insurance companies. Thatched buildings should be insured for their full rebuilding cost. Specialist insurers of thatch and thatchers can offer guidance on the best preventative approaches to take. Basically, they will recommend firstly that easily removable wire nets are fitted, as thatch needs to be pulled off quickly if fires occur. Secondly, they will advise on the height and condition of chimney stacks. For new thatched-homes there is a recommended distance of 1.8m between the flue outlet and thatched ridge. This standard is not practicable for old buildings but the relationship of the stack to the thatch should not be overlooked. In the pilot survey of thatched properties in the Test Valley, many of the chimney stacks were considered inadequate. Past practice when grant-aiding has been to ensure a minimum distance of 0.8m between the outlet and thatch ridge. Attempts to heighten the masonry of historic chimneys need careful thought as they will add to the weight and could undermine the roof structure.

Energy-efficient wood burning stoves burn much hotter than open fires and are now recommended for use with a vertical lining separating the chimney shaft from the thatch. Spark arrestors, which can detract from the appearance of a thatched roof, may be difficult to keep clean and are not a substitute for a properly maintained chimney. All chimney masonry should be inspected when re-thatching to ensure any open joints are filled and flashings are not defective. A feebly hydraulic lime mortar (with no cement additive) is flexible and permeable and appropriate for most types of historic masonry. Lead flashings carefully chased into the chimney masonry provide a more permanent weathering between the thatch and the chimney and are generally to be recommended. Lime mortar fillets offer more temporary weathering and are more likely to fail. A mortar fillet is best used only where the masonry is weak and it's inadvisable to interfere with the stack or where the line of the thatch may vary significantly. Electricians, plumbers, painters and general builders all need to take special care when working around thatched roofs, especially if using hot equipment.

Regular inspections are advisable and work should be planned well in advance, as poor weather and shortages of the best thatching supplies can hinder a thatcher's work.

Record keeping is essential whether the building is listed or unlisted, to keep track of the types of materials used (and their source) and the work done or proposed.

Below: A traditional patch repair will extend the life of the thatch, St Mary Bourne.

The future of Thatching

Above: Straw growing for thatch, New Forest

The benefits of maintaining the thatched roofs and straw-thatching traditions of Hampshire extend beyond aesthetics. As the traditional roof covering of small houses and cottages, agricultural buildings and wall-tops, thatch makes an essential contribution to the distinctive character of the county's villages and landscape. There is clearly more work to be done in defining this distinctiveness and understanding the history of traditional thatched buildings, in gathering evidence on the local styles and material types found on roofs throughout the county.

The issues surrounding sustainable sources of durable thatching materials are complex and varied, and merit a better understanding of durability, and more monitoring of materials and conditions to assess their performance in a demanding and changing climate. Investment and support would allow the range of regional thatching materials to expand to meet market demands, and would encourage more sustainable thatching practices. Incentives for growing organic straw for thatching would give farmers or landowners an opportunity to diversify, to improve outdated technology and assist in crop research. Increasing the availability of good quality materials is becoming essential to the survival of traditional straw thatching. Growing straw for thatch could meet several of the aims of sustainable business by assisting in the development of organically grown English plant varieties, by providing traditional roofing materials for historic buildings, and by maintaining historic agricultural landscapes. Revitalising the management of local water reed-beds and woodland products to supply the thatching industry would also benefit nature conservation.

Consensus is needed on ways of implementing the recommended national guidance more fully, if the legislative framework is to succeed in protecting historic thatched roofs across the county. The challenge is to develop a framework, grounded in the knowledge of local traditions, for protecting and maintaining historic thatch and to encourage and support more sustainable thatching practices in demanding economic and environmental conditions. The value of retaining the thatching traditions in the county will ultimately have to be upheld through the goodwill and cooperation of all those who cherish them and appreciate their international significance beyond the county border.

Below: Reaping the wheat on a 7 foot reaper-binder, International Harvester of 1942 and a Allis-Chalmers Model B, 1939 tractor. Ivor Brown and Mark Holloway (on tractor) Conservators, Hampshire Museum Service.

10 Glossary of thatching terms

Barge or verge: The finished edge of thatch overhanging the gable. Also known as the brow or gable.

Butt-up ridge: More common in the West Country. This method fixes the butt ends pointing up to the apex of the roof with the butts of the more exposed slope being slightly higher than those on the other slope.

Cob: Generally refers to buildings and boundary walls constructed with various earth-extracted materials, mainly clay and chalk or mixtures of both in Hampshire. The walls are often rendered with early 19th-century patented cements.

Combed wheat reed: Thatching straw, threshed to remove the grain, leaves and weeds then processed through a reed comber.

Crooks or hooks: Iron rods of various lengths from 200 to 300 mm, pointed at one end and rounded at the other. The thatcher secures the thatch to the roof by laying sways across the straw or reed, then using crooks to pin the sways to the rafters.

Cruck frames: One of three main types of timber-frame structures with curved timbers forming the main trusses of the house and main support for the roof.

Eyebrow window: Small window or eyelet, high in the wall, necessitating a curve of the thatched eave over it to keep it functional.

Hydraulic lime mortar: Traditional lime used for building was usually locally burnt hydraulic lime, ie the lime had a high clay content and would set in water. Hydraulic limes are readily available and should be mixed in 1 part to 2 parts sharp, well-graded sand.

Leggett: A wooden tool, also known as a bat, beetle or dresser, used to push or drive combed wheat and water reed into position on the roof.

Lime mortar fillets: A band of hydraulic lime mortar used to protect junctions between chimneys and thatch in situations where the finished line of the thatch is likely to vary. Cement should not be used with traditional masonry on thatch because of its inability to accommodate movement without cracking.

Liggers: Long split rods 5 feet (1.5 m) in length, pegged down by spars to secure and decorate the exterior coat of thatch. Winter cut hazel is considered more durable and flexible than other materials (see spars and sways). Also know as ledgers.

Long straw: Threshed thatching straw, cut by a reaper-binder (not a combine-harvester), drawn into order by hand, formed into yealms (see below) and laid on the roof with stem lengths and ears of grain exposed to give a soft, natural appearance. The straw is always raked and cut into shape at eaves, around windows and at verges. In some cases the main coating is trimmed to achieve a close surface.

Pole rafters: Whole, straight, small tree trunks, found as main structural members in 18th-century roof frames covered with thatch.

Smoke-blackened thatch (SBT): Can survive in open plan buildings, with late medieval roofs up to the mid 17th century, in various forms depending on the regional materials used. May be composed of a base coat of woven or stitched water-reed, tied to the roof rafters, encrusted with soot and dust up to several centimetres deep. New techniques are being developed to date the plant remains found in SBT.

Spars: Spar-making is a craft that varies in practice from county to county. Split lengths of hazel or willow are sharpened at both ends, twisted in the middle and bent for use as staples to secure new thatch to existing coats, also to secure liggers on ridges. Shorter lengths were used on thatched chalk wall tops.

Sways: Split or round rods made of hazel willow or steel used with spars or iron crooks to secure thatch over coats or to rafters horizontally in parallel with the line of the eaves.

Tilestones: Stone roofing tiles, not widely used in Hampshire, originating mainly from the Purbeck area of Dorset.

Water reed: Wetland plant occurring in coastal and riverside marshland areas of the UK and the continent. Harvested by hand or mechanically, and bundled and graded according to length and quality. Always pushed or driven into shape with the use of a leggett.

Wrap-over ridge: Classic, simple, traditional ridge fits flush with the top course of thatch with no cut patterns.

Yealm or hellum: A compact layer of straw hand drawn from a carefully prepared large rectangular wad or bed used for long-straw thatching.

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www.coppice-products.co.uk
Information on nationwide suppliers of woodland products related to thatching.

Useful Contacts

Department of Environment, Food and Rural Affairs Environmental Stewardship Scheme
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Thatch

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